Message

From: Walker, Stuart [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6907CF9284BF4BD5831517C27ECE9C53-SWALKE02]
Sent: 1/14/2021 9:07:30 PM
To: Libelo, Laurence [Libelo.Laurence@epa.gov]; Fitz-James, Schatzi [Fitz-James.Schatzi@epa.gov]
Subject: Hunters Point Buildings Risk Assessment - Material for Friday's meeting
Attachments: Copy of WTC and BPRG Dust Ingestion Parameter Comparison.xlsx; BPMO-20-034 (002) STUART 1_14_2021 comments.docx

Below I have summarized after points made in Enrique's email, some **initial responses and current status** to find more information.

Below Enrique's email I attached email back from Wayne Praskins (RPM at Hunters Point) describing the 4 factors of most interest to Enrique. Wayne recommends having information on all of the BPRG default input parameters for ingestion of indoor dust.

Attached is an Excel file with a table comparing input parameters for ingestion of indoor dust that are in the World Trade Center benchmark document, the BPRG when originally issued in 2007, and the current version of the BPRG. The table also includes the source of each of the BPRG value that differs from the WTC value and yellow highlights the different values.

Attached is a Word file with my more detailed comments on the incoming letter from the Navy.

From: Manzanilla, Enrique <Manzanilla.Enrique@epa.gov>
Sent: Wednesday, December 23, 2020 1:07 PM
To: Stalcup, Dana <Stalcup.Dana@epa.gov>; Gervais, Gregory <Gervais.Gregory@epa.gov>
Cc: Leff, Karin <Leff.Karin@epa.gov>; Lowery, Brigid <Lowery.Brigid@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>; Azad, Ava <Azad.Ava@epa.gov>; Herrera, Angeles <Herrera.Angeles@epa.gov>; Chesnutt, John <Chesnutt.John@epa.gov>; Praskins, Wayne <Praskins.Wayne@epa.gov>; Sanchez, Yolanda <Sanchez.Yolanda@epa.gov>
Subject: Hunters Point Buildings Radiological Rework
Importance: High

Dana and Greg,

I'm writing to update you on our efforts at the Hunters Point Naval Shipyard site (HPNS) to come to agreement with the Navy on the protectiveness of the radiological building remedial goals (RGs) included in the site RODs. Last year the Navy proposed to use RESRAD BUILD (RRB) in lieu of EPA's BPRG calculator to support their protectiveness determinations. That initiated our radiological consultation with EPA HQ. Following that consultation, in August 2020, Region 9 relayed EPA's concerns to the Navy regarding the use of RRB, emphasizing that through our review/consultation we were unable to concur with the Navy's conclusion that the Hunters Point radiological building remedial goals are protective under CERCLA. We proposed a path forward using the BPRG calculator which would greatly lower some of the remedial goals.

The Navy sent a letter to the Region on December 11 (attached) and we responded yesterday (attached). The Navy continues to oppose the use of the BPRG calculator, claiming that EPA's proposed BPRG values for removable contamination (i.e., dust) are below background and too low to detect with state-of-the-art equipment.

a. Initial Response/Current Status. EPA's policy for CERCLA remedy selection is to not go below site-specific background levels.

b. The default BPRG dust levels may be below field survey methods. That is a reason to take samples to a laboratory.

The Navy again requested that EPA support the Navy's RRB analysis, describing RRB as "refined, complete, and appropriate" and the "most extensively tested, verified, and validated tool used for ... radiological risk assessment."

a. Initial Response/Current Status. RRB has not been peer reviewed , or verified for risk assessment, and does not have a User Guide for conducting risk assessment. An evaluation of RRB by the Army Corp found that they are using the wrong type of slope factors for fixed contamination and external exposure from dust. DOE is unable to explain how their scheme works but it appears to not be technically sound.

b. The BPRG has been peer reviewed, and the WTC approach which is the source of the BPRG dust ingestion pathway underwent a panel peer review.

We agree with the Navy that the BPRG calculator, when used with default inputs, generates conservative risk estimates and conservative remediation goals. For the radionuclides of concern at HPNS, the BPRG calculator estimates risks several orders of magnitude higher than RRB.

a. Initial Response/Current Status. If an argument can be made site-specifically that additional replenishment of radiologically contaminated dust indoors will be exceeded by the standard cleaning of rooms, trying to determine a justifiable dissipation rate would be the input parameter where it would be most likely to justify a change from the default of 0.

b. The default dissipation rate in the BPRG calculator is zero. The WTC response was able to justify a dissipation rate of 0.38. In discussions with EPA staff that developed the WTC benchmarks, the default of zero was chosen since BPRG may be used at sites where continued replenishment of contamination indoors may be occurring.

c. *As an example*, the residential dust 1 x 10-4 BPRG value for Ra-226 at secular equilibrium with a dissipation rate of 0 is 5.48E-03 pCi/cm^2. If the WTC dissipation rate of 0.38 were justifiable, the BPRG result would change to 5.41E-02 pCi/m^2.

We have worked with the Navy, unsuccessfully, to determine whether less conservative site-specific inputs are appropriate which would generate lower risk estimates and higher remedial goals. We have also worked with the Navy to try to resolve our concerns about their use of RRB at Hunters Point. Those efforts have also, to date, been unsuccessful.

Here's where we need your assistance in helping us prepare for further discussions and/or a formal dispute with the Navy: Given the BPRG calculator is a national tool, we need to continue close coordination with your offices as we work to resolve our differences with the Navy to ensure your interests in the BPRG calculator are represented. There are three issues that we already know we need your support with, so are elevating them to you now:

1) It would be helpful to know of other Superfund cleanup examples where remediation goals have been set to address radiologically-contaminated buildings for residential use (whether using BPRG, RRB, or another risk model).

a. Initial Response/Current Status. We are querying regions and have a contractor search for examples where we have used the BPRG for addressing dust contamination or the same dust ingestion approach for indoor chemical contamination. We do not expect to find many examples. EPA conducts few risk assessments of building contamination for purposes of setting cleanup levels.

b. We are also conducting a similar search for where we have conducted a risk assessment of indoors ingestion of chemically contaminated dust. It is EPA's policy to address chemical and radiological contamination at CERCLA sites in a consistent manner. We are not aware of any chemical risk assessment model/guidance that uses the RESRAD Build approach for dust ingestion.

c. We are also trying to determine the extend (e.g., number of apartments, homes, offices) that were addressed using the WTC benchmarks.

2) We do not have a clear sense of how many times the BPRG calculator has been used to provide cleanup values at NPL sites, and the circumstances in which it has been used (e.g., radionuclides, target risk, RGs, building use). We are especially interested in examples where the planned use was residential.

   a. Initial Response/Current Status. See answer to previous bullet.

3) We expect that one of the primary topics of discussion in a dispute will be the level of conservatism designed into the RRB and BPRG calculators for removable radiological contamination (i.e., dust) and the much higher risks estimated by the BPRG calculator. The BPRG calculator estimates risk by multiplying a contaminant concentration by four exposure factors. We encourage you to be prepared to explain the basis for the default values for these four factors, the use of the product of the four factors to estimate risk, and examples where HQ has supported site-specific modifications to the calculator to estimate risk from radiologically contaminated dust.

   a. Initial Response/Current Status. See below email from Wayne Praskins (RPM for Hunters Point) on the four factors that Enrique mentioned. Wayne recommends being able to discuss all of the input parameters used for dust ingestion.

   b. The dust ingestion values in the BPRG calculator were originally taken from the 2003 World Trade Center (WTC) incident response, and were updated once in 2014 based on the 2011 Exposure Factors Handbook. The WTC document was used as the original source since this effort had undergone a gold plated scientific panel peer review, and the exposure input parameters would be the same whether it is a chemical or radiological contaminant. See attached Excel file with table summarizing the input parameters for ingestion of dust indoors used in the 2003 WTC document, BPRG calculator when initially issued in 2007, and current version of the BPRG calculator.

   c. We are also attempting to develop a chart of different federal and California programs that have adopted similar default parameters for ingestion of indoor contaminants. EPA's pesticides program was the source of much of the WTC parameters, and I discussed our effort with one of their senior staffers who looked over the attached table and confirmed their defaults were the same for indoor ingestion and then sent me their risk assessment guidance. My main ORNL contact on developing the BPRG contractor also worked with EPA and other federal agencies staff on a risk assessment methodology for airports that had contaminants left after a terrorist attack, which used the WTC approach for indoor ingestion. He has emails indicating this approach was adopted in California regulations (and several other states) on meth lab cleanup and guidance on airport cleanup, possibly other DHS and DOE guidance, and he has a DOD guidance on clearance of platforms and material from chemical weapon agents that follows the WTC/BPRG approach .

Thanks for your support. Let's see if we can schedule a discussion the week of January 4th hopefully when all return from well-deserved breaks.

Happy Holidays!!!

Enrique

From: Praskins, Wayne <Praskins.Wayne@epa.gov>
Sent: Friday, January 08, 2021 1:01 PM
To: Walker, Stuart <Walker.Stuart@epa.gov>
Cc: Young, Dianna <Young.Dianna@epa.gov>
Subject: RE: Hunters Point Buildings Radiological Rework

Stuart –

The reference is to hand-to-mouth frequency, finger surface area, fraction transferred, and saliva extraction factor. I would take the request to refer to all parameters that are used to estimate exposure via ingestion (e.g., also consider exposure to hard vs. soft surfaces, fraction of time spent indoors, exposure frequency).

Wayne Praskins | Superfund Project Manager
U.S. Environmental Protection Agency Region 9
75 Hawthorne St. (SFD-7-3)
San Francisco, CA 94105
415-972-3181

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Thursday, January 7, 2021 7:25 PM
To: Praskins, Wayne <Praskins.Wayne@epa.gov>; Young, Dianna <Young.Dianna@epa.gov>
Subject: FW: Hunters Point Buildings Radiological Rework
Importance: High

Hi Wayne,

I had a discussion with some of my managers today and we wanted to get some clarification of which 4 factors were being discussed in Enrique's email. We wanted to make sure that we were responsive in pulling together information.

> We expect that one of the primary topics of discussion in a dispute will be the level of conservatism designed into the RRB and BPRG calculators for removable radiological contamination (i.e., dust) and the much higher risks estimated by the BPRG calculator. The BPRG calculator estimates risk by multiplying a contaminant concentration by four exposure factors. We encourage you to be prepared to explain the basis for the default values for these four factors, the use of the product of the four factors to estimate risk, and examples where HQ has supported site-specific modifications to the calculator to estimate risk from radiologically contaminated dust.

Stuart Walker
Superfund Remedial program National Radiation Expert
Science Policy Branch
Assessment and Remediation Division
Office of Superfund Remediation and Technology Innovation
W (703) 603-8748
C (202) 262-9986